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(71) Applicant
Michel Hechmati
La Croisette, 06400 Cannes, France

(72) Inventor
Michel Hechmati

(74) Agent and/or Address for Service
Williams, Powell & Associates
34 Tavistock Street, London, WC2E 7PB,
United Kingdom

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(56) Documents cited
GB 2120944 A GB 2092003 A GB 0623897 A
GB 0615730 A GB 0319489 A GB 0254957 A

(58) Field of search
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(54) Suction massage apparatus for treating sub-cutaneous fat

(57) Apparatus for treating sub-cutaneous fat comprises a device for producing sub-atmospheric pressure, and an applicator head 11, to apply to a skin surface, with one or more apertures communicating with the device, whereby a suction force can be applied to localised areas of said skin surface.

The method of use involves applying the suction force through the apertures to areas of skin surface and moving said area(s) continuously across said surface, whereby sub-cutaneous fat cells are squeezed to allow the cellulite to escape and disperse.

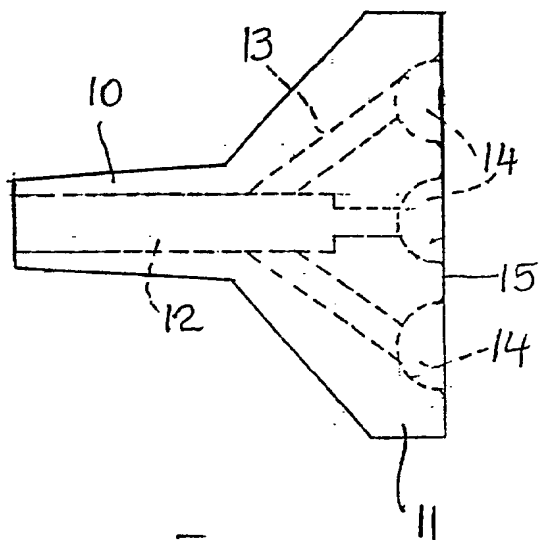


Fig 1.

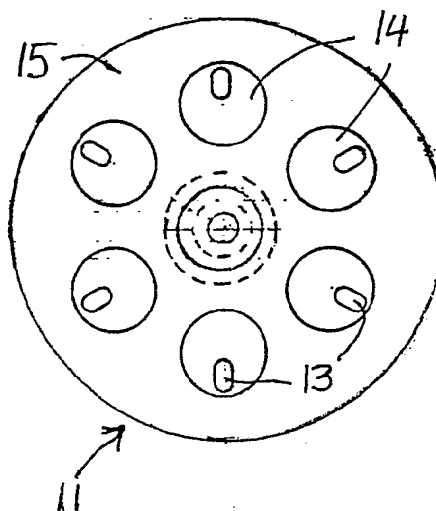


Fig 2.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1990.

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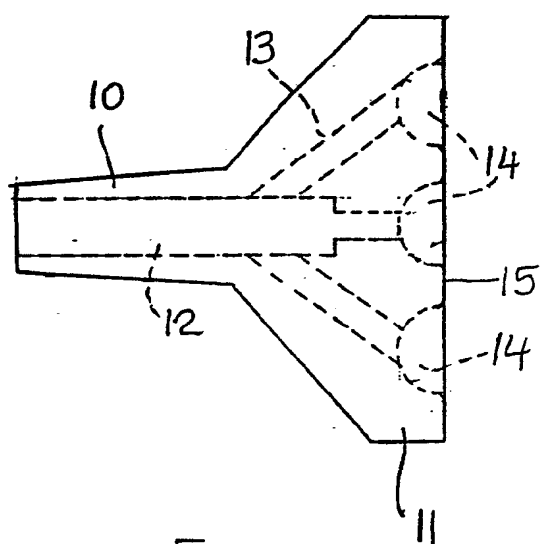


Fig 1.

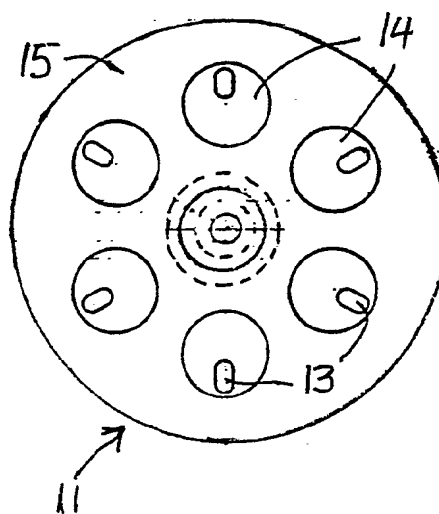


Fig 2.

This invention relates to apparatus for treating sub-cutaneous fat (often referred to as cellulite), and to a method of treatment.

5 For cosmetic reasons, various methods have been developed for reducing human sub-cutaneous fat. One of the well know 'physical', as opposed to dietary or chemical, methods is known as 'lipo suction'. For this, punctures are made in the skin and the fat is
10 literally extracted under suction. The present invention proposes an alternative physical method and apparatus therefore.

The invention operates by applying a controlled suction
15 pressure to the outer skin surface to cause squeezing of the cells around the fat, thus allowing the fat to disperse into the surrounding tissue. No puncturing of the skin is necessary. The method can thus be performed by the patient or by otherwise medically
20 unqualified staff, without the use of medication.

An exemplary embodiment of apparatus for performing the method is illustrated in the accompanying drawings, in which:

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Fig.1 shows a side view of a suction head according to the invention; and

Fig.2 shows a view of the front face thereof.

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The suction head is circular, made of cast acrylic plastic, and has a hollow stem 10 and an application head 11 of generally conical configuration. The stem 11 can be connected to a suction machine by a hose (not
35 shown), and a central passage 12 communicates by a series of secondary passages 13 to seven hemispherical pockets 14 in the front face 15. The face 15 has a

diameter of 60mm, and each pocket 14 a diameter of 14mm. Passages 12 and 13 have respective diameters of 8mm and 4mm. These shapes and sizes may be varied, but must remain in this order of magnitude to avoid
5 applying excessive local pressures.

The skin tissue is sucked into the recesses and squeezed thereby. The suction pressure applied over the area of the seven pockets 14 amounts to a total of between 1/2
10 and 2 kilograms. As the head is moved over the skin surface, the tissue is forced to leave the pockets as a new area is covered, thus effectively squeezing the cells containing the fat so as to induce breakage of the capillaries surrounding the fat tissue.

15 This results in the destruction of the adipose tissue. Each area is treated two or three times, twice a week, for 3 to 9 weeks. The technique is painless and does not cause irritation because of the nature of the
20 material used. The resulting superficial hematoma disappears in a few days. Following each session, the patient should use lipo-sculpto twice a day, for approximately 6 weeks. The results are evaluated by measuring the circumferences of the areas treated.
25 These measurements usually reduce by 5 to 10% after 2 months.

This new and safe technique for reducing fat can be used as a complementary treatment of 'lipo-suction',
30 especially when fat irregularity is present.

Claims

1. Apparatus for treating sub-cutaneous fat comprising a device for producing sub-atmospheric pressure, and an applicator head (11), to apply to a skin surface, with one or more apertures (14) communicating with said device, whereby a suction force can be applied to localised areas of said skin surface.
2. Apparatus as claimed in claim 1, wherein said applicator head has a connector portion to which a suction hose can be fitted and channels between the connector portion and a plurality of said apertures.
3. Apparatus as claimed in claim 2, wherein the apertures are in a front surface of the head and are of larger cross-sectional area than the channels.
4. Apparatus as claimed in claim 3, wherein said apertures are in the form of hemispherical recesses.
5. Apparatus as claimed in claim 3 or 4, wherein the apertures have a transverse dimension at the front surface of the head of 12 to 16mm.
6. Apparatus as claimed in any preceding claim having six apertures arranged in a circle and one aperture in the centre of said circle.
7. Apparatus as claimed in any preceding claim wherein the head is made of a flexible plastics material.

8. A method for treating sub-cutaneous fat comprising applying localised suction force to one or more areas of skin surface, and moving said area(s) continuously across said surface, whereby sub-cutaneous fat cells are squeezed to allow the cellulite to escape and disperse.

9. A method as claimed in claim 8, wherein a suction force of between 1/2 and 2 kilograms is applied over a total skin area of between 800 and 1400 sq.mms.

10. A method as claimed in claim 8, wherein the suction applied is sufficient to draw the tissue into a plurality of apertures in an applicator head by means of which the suction is applied.

Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

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Relevant Technical fields

(i) UK Cl (Edition L) A5R (REQ)

(ii) Int Cl (Edition 5) A61H 7/00, 9/00

Databases (see over)

(i) UK Patent Office

(ii) ONLINE DATABASES: WPI

Search Examiner

MISS E M COLEMAN

Date of Search

18 FEBRUARY 1993

Documents considered relevant following a search in respect of claims 1-10

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2120944 A (MASAKATSU TORII) see the figures and page 1 lines 30 to 38	1,2,7,8, 10
X	GB 2092003 A (CHUN HO LAI) see Figures 9 and 10	1,7
X,Y	GB 0623897 (FLUCK) whole document	X: 1,2 Y: 10
	GB 0615730 (SMITH) particularly the figures and page 3 lines 23 to 49	1,8
X,Y	GB 0319489 (STEPHANI) whole document	X: 1,8 Y: 10
X	GB 0254957 (HOLT) whole document	1-4,6,7

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).